REMARKS/ARGUMENTS

Applicant appreciates the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the foregoing amendments and the following remarks.

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Claims 1, 3-6 have been amended so as to distinguish the present invention from the cited references. Support for this amendment is founded in the remainder of the specification (e.g., the change "Chang's needle' for 'Surgical needle").

Claim 1 has been amended to include the limitations recited in claims 3-6 with a narrower range of length than originally specified for the three chambers of the quasi-T shaped catheter. Support for the above amendments is found in the specification.

Claims 3-6 have been canceled.

No new matter has been added to the application through the amendments.

Rejections under 35 USC § 102(b)

Claims 1-5 and 7 are rejected under 35 U.S.C. 102 as being anticipated by French et al. (US Patent 6,095,997). Applicant respectfully disagrees.

Claim 1 as amended is directed to a quasi-T shaped catheter for delivering anti-cancer drugs to the liver for chemotherapy. It comprises a first chamber positioned at one limb of said quasi-T shaped catheter and having a first portal for delivering the anti-cancer drugs; a second chamber positioned at another limb of said quasi-T shaped catheter opposite to the first chamber and having a second portal for delivering the anti-cancer drugs; and a third chamber positioned at the other limb of the quasi-T shaped catheter and having a third portal for infusing the anti-

cancer drugs; wherein said quasi-T shaped catheter is formed as an integral piece and said first, second and third chambers are in communication with each other, and the first portal and the second portal are to be inserted into the vessels leading respectively to the hepatic artery and the portal vein; wherein said first chamber has a length between 5 and 9 cm, said second chamber has a length between 5 and 9 cm and the third chamber has a length between 15-30 cm; said first chamber and said second chamber each further comprises an anti-reflux valve; and the quasi-T shaped catheter has an anti-coagulation coating applied to its interior surface.

French et al. (US Patent 6,095,997) discloses intraluminal shunt devices and methods of their use for delivering a drug or other fluid to a target vessel of a patient while also maintaining perfusion of blood through the vessel to reduce ischemia downstream of the vessel. The intraluminal shunt devices may generally include a primary elongate tubular member that is sized and dimensioned to be inserted into the target vessel, such as the right coronary artery. The primary tubular member includes at least one inner lumen which permits blood perfusion through the vessel. At least one secondary tubular member is provided which is in fluid communication with the primary tubular member. The secondary tubular member may be configured for drug or fluid delivery through the primary tubular member and into the vessel in either an anterograde or retrograde direction. Methods of using shunt devices are also described which generally include making an incision in the target vessel, inserting the proximal and distal ends of the primary tubular member into the target vessel via the incision, and selectively delivering the drug or fluid in either an anterograde or retrograde direction through the primary tubular member and into the vessel.

French et al. discloses a device that is an quasi-T shaped catheter, integrally formed in one piece, for delivering drugs to a vessel, comprising, respectively at its three limbs, a first

chamber having a first portal, a second chamber having a second portal, and a third chamber having a third portal, wherein the three chambers are in communication with each other.

However, French et al. fails to teach or suggest that said first chamber has a length between 5 and 9 cm, said second chamber has a length between 5 and 9 cm and the third chamber has a length between 15-30 cm; said first chamber and said second chamber each further comprises an anti-reflux valve; and the quasi-T shaped catheter has an anti-coagulation coating applied to its interior surface. It should be noted that only with chambers of suitable lengths can the quasi-T shaped catheter operate properly for chemotherapeutic purposes for liver malignancies. The device taught by French et al. preferably has a length of between about 1.0 cm to about 5.0 cm, and most preferably about 3.0 cm, for its primary tubular member 20 (col. 9, lines 31-33), which corresponds to the first chamber 12 *and* the second chamber 14 of the present invention. In other words, French et al. teaches a combined length of 1.0 ~ 5.0 cm for the first chamber 12 and the second chamber 14. In contrast, the combined length of the first chamber 12 and the second chamber 14 according to claim 1 as amended is 10 ~ 18 cm. The length of the two chambers is critical to the effectiveness of trans-arterial and trans-portal chemotherapy, for which the quasi-T shaped catheter is intended; the preferred length also prevents the quasi-T shaped catheter from becoming dislodged from the vessel.

The anti-reflux valve taught by French et al. is also different from those in the present invention in terms of its location and function. The one-way valve member 50 of French et al. is for directing the drug or fluid administered in either anterograde or retrograde direction; it is placed at the juncture between the secondary tubular member 30 (corresponding to the third chamber 16 of the present invention) and the primary tubular member 20 (corresponding to the first chamber 12 and the second chamber 14 of the present invention). In contrast, the anti-reflux

valve 18 of the present invention is disposed in *each* of the first chamber 12 and the second chamber 14 off the point where the third chamber 16 is connected. Moreover, the anti-reflux valve 18 is used to make sure that the drug is delivered simultaneously through both the first chamber 12 and the second chamber 14. Thus, the quasi-T shaped catheter is able to combine both the trans-arterial chemotherapy and the trans-portal chemotherapy to provide a better chemotherapeutic effect and survival for the patients. Therefore, the anti-reflex valves in the present invention are not anticipated by French et al.

Therefore, Applicant respectfully submits that the reference fails to teach or disclose each and every limitation of the amended claim 1, and respectfully requests that the rejections be withdrawn.

Claims 2 and 7 are considered allowable for the reason advanced with respect to claim 1 from which they depend.

Rejections under 35 USC § 103(a)

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over French et al. (US Patent 6,095,997) in view of Patnaik (US Patent 5,728,751).

With its additional limitation incorporated into claim 1, claim 6 is now canceled, rendering the rejection moot.

In any event, combining French et al. and Patnaik would not lead to a device with all the limitations according to claim 1 as amended – due to the specific sizes of the three chambers and the different way of placing the anti-reflux valves. Therefore, claim 1 as amended could not be rejected under 35 U.S.C. 103(a) as being unpatentable over French et al. in view of Patnaik.

New Method Claim

Claim 8 is added to claim the method of delivering anti-cancer drugs to the liver for chemotherapy using the quasi-T shaped catheter of claim 1. This method is capable of providing a dual effect of trans-arterial chemotherapy and trans-portal chemotherapy at the same time.

The new claim can find support in the original specification of the present invention and no new matter is added.

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Based on the above amendments and remarks, the present invention defined in the amended claims is believed patentably distinguishable over the cited references. Reconsideration and withdrawal of the rejections are respectfully requested. Allowance of the claims 1, 2 and 7 is requested so that the entire case may be passed to early issuance.

Respectfully submitted:

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